

| Form PTO-1449 U.S. Department of Commerce Patent and Trademark Office INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary) | | | | | | | | Atty. Docket No. P23688 | Serial No. 10/646,908 | | | | | | |
|--|------|-----------------|---|---|---|---|------|--------------------------------|--------------------------|----------------|----------|----------------------------|--|--|--|
| | | | | | | | | Applicant Hiroshi NOMURA | | | | | | | |
| | | | | | | | | Filing Date August 25, 2003 | | | | Group 2873 | | | |
| U.S. PATENT DOCUMENTS | | | | | | | | | | | | | | | |
| EXAMINER INITIAL | | DOCUMENT NUMBER | | | | | DATE | NAME | | CLASS | SUBCLASS | FILING DATE IF APPROPRIATE | | | |
| LL | 2004 | 1 | 0 | 4 | 2 | 0 | 9 | 5 | 03/04/04 | NOMURA | | | | | |
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| LL | 2004 | 1 | 0 | 6 | 2 | 5 | 3 | 7 | 04/01/04 | NOMURA | | | | | |
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| LL | 2004 | 1 | 0 | 4 | 2 | 0 | 9 | 1 | 03/04/04 | NOMURA | | | | | |
| LL | 2004 | 1 | 0 | 4 | 2 | 0 | 8 | 9 | 03/04/04 | NOMURA | | | | | |
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| LL | 2004 | 1 | 0 | 4 | 2 | 7 | 7 | 7 | 03/04/04 | NOMURA | | | | | |
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| LL | 2004 | 1 | 0 | 4 | 2 | 0 | 9 | 6 | 03/04/04 | NOMURA | | | | | |
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| LL | 2004 | 1 | 0 | 4 | 2 | 0 | 9 | 2 | 03/04/04 | NOMURA | | | | | |
| | 4 | 5 | 2 | 5 | 0 | 5 | 0 | 0 | 06/25/85 | OHASHI | | | | | |
| | 4 | 6 | 4 | 3 | 5 | 5 | 5 | 0 | 02/17/87 | WAKABAYASHI | | | | | |
| | 4 | 7 | 2 | 1 | 9 | 7 | 2 | 0 | 01/26/88 | WAKABAYASHI | | | | | |
| | 4 | 7 | 9 | 2 | 8 | 2 | 2 | 0 | 12/20/88 | AKIYAMA et al. | | | | | |
| | 5 | 8 | 1 | 8 | 6 | 4 | 7 | 0 | 10/06/98 | NISHIO et al. | | | | | |
| | 6 | 0 | 3 | 1 | 9 | 9 | 8 | 0 | 02/29/00 | SHONO | | | | | |
| | 4 | 4 | 5 | 1 | 1 | 2 | 9 | 0 | 05/29/84 | IKARI et al. | | | | | |
| EXAMINER | | | | | | | | DATE CONSIDERED | | | | | | | |
| <i>8/13/04</i> | | | | | | | | | | | | | | | |

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| EXAMINER INITIAL | | DOCUMENT NUMBER | | | | | | DATE | NAME | CLASS | SUBCLASS | FILING DATE IF APPROPRIATE |
| | | 4 | 6 | 4 | 3 | 5 | 5 | 4 | 02/17/87 | OGAWA | | |
| | | 4 | 7 | 7 | 1 | 3 | 0 | 3 | 09/13/88 | MATSUMOTO et al. | | |
| | | 4 | 8 | 8 | 7 | 1 | 0 | 7 | 12/12/89 | NAKAMURA et al. | | |
| | | 5 | 1 | 3 | 6 | 3 | 2 | 4 | 08/04/92 | TSUBOI et al. | | |
| | | 5 | 7 | 6 | 5 | 0 | 4 | 9 | 06/09/98 | HASE et al. | | |
| | | 5 | 8 | 3 | 2 | 3 | 2 | 6 | 11/03/98 | TANAKA | | |
| | | 6 | 3 | 6 | 6 | 3 | 2 | 3 | 04/02/02 | SHONO | | |
| | | 6 | 1 | 1 | 5 | 1 | 9 | 0 | 09/05/00 | HIRAI | | |
| | | 6 | 0 | 6 | 4 | 5 | 3 | 3 | 05/16/00 | KENIN et al. | | |
| | 2003 | /0 | 0 | 8 | 1 | 3 | 2 | 5 | 05/01/03 | NOMURA et al. | | |
| | 2001 | /0 | 0 | 2 | 4 | 5 | 7 | 3 | 09/27/01 | NOMURA et al. | | |
| | 2002 | /0 | 1 | 3 | 5 | 9 | 0 | 0 | 09/26/02 | NOMURA et al. | | |
| | | 6 | 0 | 7 | 5 | 6 | 5 | 5 | 06/13/00 | FUNAHASHI | | |
| | 2002 | /0 | 1 | 3 | 5 | 9 | 0 | 1 | 09/26/02 | NOMURA et al. | | |
| | 2003 | /0 | 0 | 8 | 1 | 3 | 2 | 7 | 05/01/03 | NOMURA et al. | | |
| | 2002 | /0 | 1 | 3 | 5 | 8 | 9 | 6 | 09/26/03 | NOMURA et al. | | |
| | | 6 | 0 | 5 | 5 | 1 | 1 | 6 | 04/25/00 | NOMURA et al. | | |
| | | 6 | 2 | 0 | 4 | 9 | 7 | 7 | 03/20/01 | IWASA | | |
| | | 5 | 4 | 3 | 0 | 5 | 1 | 6 | 07/04/95 | UZIIE et al. | | |
| | 2003 | /0 | 0 | 8 | 1 | 9 | 4 | 8 | 05/01/03 | NOMURA et al. | | |
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| | | 4 | 9 | 9 | 3 | 8 | 1 | 5 | 02/19/91 | YAMAZAKI et al. | | |
| | | 5 | 7 | 3 | 1 | 9 | 1 | 3 | 03/24/98 | IMANARI | | |
| | | 5 | 7 | 3 | 9 | 9 | 6 | 2 | 04/14/98 | ASAOKA et al. | | |
| | 2003 | /0 | 1 | 5 | 6 | 8 | 3 | 2 | 08/21/03 | NOMURA et al. | | |
| | | 5 | 5 | 8 | 7 | 7 | 5 | 4 | 12/24/96 | KATAYAMA et al. | | |
| | | 6 | 0 | 5 | 2 | 5 | 3 | 5 | 04/18/00 | UNO | | |
| EXAMINER | <i>[Handwritten signature]</i> | | | | | | | | DATE CONSIDERED | <i>8/13/04</i> | | |
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| EXAMINER INITIAL | | DOCUMENT NUMBER | | | | | | DATE | NAME | CLASS | SUBCLASS | FILING DATE IF APPROPRIATE | | | |
| | | 5 | 2 | 2 | 3 | 8 | 7 | 3 | 06/29/93 | TSUBOI | | | | | |
| | | 5 | 0 | 8 | 6 | 3 | 1 | 2 | 02/04/92 | TANAKA et al. | | | | | |
| | | 5 | 4 | 9 | 9 | 1 | 4 | 3 | 03/12/96 | SAKAMOTO et al. | | | | | |
| | | 6 | 0 | 6 | 9 | 7 | 4 | 5 | 05/30/00 | FUJII et al. | | | | | |
| | | 6 | 3 | 2 | 4 | 0 | 1 | 9 | 11/27/01 | TAKANASHI et al. | | | | | |
| | | 5 | 4 | 8 | 5 | 3 | 1 | 5 | 01/16/96 | NOMURA et al. | | | | | |
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| FOREIGN PATENT DOCUMENTS | | | | | | | | | | | | | | | |
| | | DOCUMENT NUMBER | | | | | | DATE | COUNTRY | CLASS | SUBCLASS | TRANSLATION YES NO | | | |
| | | 58 | - | 1 | 4 | 5 | 9 | 3 | 0 | 08/31/83 | JAPAN | | | | |
| | | 61 | - | - | 6 | 9 | 0 | 0 | 2 | 04/09/86 | JAPAN | | | | |
| | | 61 | - | 2 | 7 | 0 | 7 | 3 | 7 | 12/01/86 | JAPAN | | | | |
| | | 63 | - | 1 | 4 | 9 | 6 | 2 | 9 | 06/22/88 | JAPAN | | | | |
| | | 64 | - | 3 | 4 | 6 | 2 | 3 | 03/02/89 | JAPAN | | X | | | |
| | | 6 | - | 1 | 8 | 7 | 7 | 7 | 01/28/94 | JAPAN | | X | | | |
| | | 7 | - | 1 | 9 | 1 | 2 | 4 | 9 | 07/28/95 | JAPAN | | | | |
| | | 11 | - | 1 | 0 | 9 | 2 | 0 | 3 | 04/23/99 | JAPAN | | | | |
| | | 58 | - | 1 | 0 | 7 | 0 | 8 | 01/21/83 | JAPAN | | | | | |
| | | 2 | 3 | 4 | 4 | 6 | 6 | 1 | 06/14/00 | UNITED KINGDOM | | | | | |
| | | 2 | 2 | 6 | 2 | 3 | 5 | 6 | 06/16/93 | UNITED KINGDOM | | | | | |
| | 2003 | - | 2 | 0 | 7 | 7 | 0 | 9 | 07/25/03 | JAPAN | | | | | |
| | | 2 | 3 | 0 | 9 | 5 | 5 | 1 | 07/30/97 | UNITED KINGDOM | | | | | |
| | | 2 | 3 | 4 | 4 | 6 | 6 | 2 | 06/14/00 | UNITED KINGDOM | | | | | |
| | | 2 | 2 | 6 | 1 | 2 | 9 | 8 | 05/12/93 | UNITED KINGDOM | | | | | |
| | 2002 | - | 2 | 7 | 7 | 7 | 1 | 9 | 09/25/02 | JAPAN | | | | | |
| EXAMINER | REDACTED | | | | | | | | DATE CONSIDERED | 8/13/04 | | | | | |
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| U.S. PATENT DOCUMENTS | | | | | | | | | | |
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| FOREIGN PATENT DOCUMENTS | | | | | | | | | | |
| | | DOCUMENT NUMBER | | | | DATE | COUNTRY | CLASS | SUBCLASS | TRANSLATION YES NO |
| <i>LL</i> | 10 | - | 2 | 8 | 2 | 3 9 4 | 10/23/98 | JAPAN | | |
| <i>LL</i> | 58 | - | 1 | 6 | 2 | 9 1 4 | 09/27/83 | JAPAN | | |
| <i>LL</i> | 0 | 6 | 3 | 4 | 6 | 8 0 | 01/18/95 | E.P.O. | | |
| <i>LL</i> | 10 | - | 3 | 2 | 7 | 4 0 | 02/03/98 | JAPAN | | X |
| <i>LL</i> | 7 | - | 2 | 8 | 8 | 7 2 4 | 10/31/95 | JAPAN | | X |
| | | | | | | | | | | |
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| OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.) | | | | | | | | | | |
| <i>LL</i> | 1 | English Language Abstract of JP 58-10708. | | | | | | | | |
| <i>LL</i> | 2 | English Language Abstract of JP 2003-207709. | | | | | | | | |
| <i>LL</i> | 3 | English Language Abstract of JP 2002-277719. | | | | | | | | |
| <i>LL</i> | 4 | English Language Abstract of JP 10-282394. | | | | | | | | |
| <i>LL</i> | 5 | English Language Abstract of JP 58-162914. | | | | | | | | |
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| EXAMINER | <i>LL C.J. 04</i> | | | | DATE CONSIDERED | | <i>8/19/04</i> | | | |
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